

AMENDMENTS TO THE SPECIFICATION

Please replace the subtitle beginning on page 1, line 6 with the following amended subtitle:

~~TECHNICAL FIELD~~BACKGROUND OF THE INVENTION

1. Field of the Invention

Please replace the subtitle beginning on page 1, line 14 with the following amended subtitle:

~~BACKGROUND OF THE INVENTION~~2. Description of the Related Art

Please replace the subtitle beginning on page 6, line 14 with the following amended subtitle:

~~DISCLOSURE OF THE INVENTION~~SUMMARY OF THE INVENTION

Please replace the paragraph beginning on page 6, line 17 with the following amended paragraph:

Namely, an information processor of the present invention is characterized by ~~comprising~~comprises: detecting means for detecting a multiplicity of combinations of n parameter values, where n is a natural number, for each of a plurality of operation modes in which an object functions, which values vary with operation; and Self-Organizing Map creating means for creating a Self-Organizing Map by using detection data, obtained on the basis of the multiple combinations of parameter values detected by the detecting means, as learning data; wherein the Self-Organizing Map creating means creates a plurality of the Self-Organizing Maps, serving as individual separation models and corresponding one to each of the plurality of operation modes.

Please replace the paragraph beginning on page 9, line 17 with the following amended paragraph:

A state judging unit for judging a state of an object of the present invention is ~~featured by comprising~~comprises: a storage unit for storing individual separation models in the form of the plural of the Self-Organizing Maps, created one for each of the plurality of operation modes by the above information processor; the detecting means; and judging means for judging which operation mode an operation of the object corresponds to based on a relative distance between a detection data point in 2n dimension corresponding to detection data obtained by the detecting means in real time and a winning neuron in each of the plural Self-Organizing Maps. A winning neuron here is a neuron having a shortest distance a (single) data point detected in real time.

Please replace the paragraph beginning on page 11, line 7 with the following amended paragraph:

An information processing method of the present invention is ~~featured by comprising the steps of~~comprises: detecting a multiplicity of combinations of n parameter values, where n is a natural number, for each of a plurality of operation modes in which an object functions, which values vary with operation; creating a Self-Organizing Map by using detection data, obtained on the basis of the multiple combinations of parameter values detected in the step of detecting, as learning data; wherein, in the step of Self-Organizing-Map creating, a plurality of the Self-Organizing Maps, serving as individual separation models, are created one for each of the plurality of operation modes.

Please replace the paragraph beginning on page 12, line 5 with the following amended paragraph:

Preferably, the method may further ~~comprises~~comprise the step of, between the step of detecting and the step of Self-Organizing-Map creating, calculating n time-difference values by processing the n parameter values detected in the step of detecting, and the Self-Organizing Map may be created based on $2n$ -dimensional data including the n parameter values, which have been detected and which indicate a momentary state of the object, and the n time-difference values which have been calculated using the n parameter values and which indicate a variation in the momentary state of the object.

Please replace the paragraph beginning on page 14, line 5 with the following amended paragraph:

A state judging method of the present invention for judging which operation mode an operation of the object corresponds to using a plurality of Self-Organizing Maps, serving as individual separation models and created one for each of a plurality of operation modes by the above information processing is ~~characterized by comprising the step of~~comprises: detecting the n parameter values that vary with operation; and judging which operation mode an operation of the object corresponds to based on a relative distance between a detection data point in a $2n$ -dimensional space corresponding to detection data obtained in real time in the step of detecting and a winning neuron in each of the plural Self-Organizing Maps.

Please replace the subtitle beginning on page 20, line 22 with the following amended subtitle:

~~BEST MODE FOR CARRYING OUT THE INVENTION~~ DETAILED DESCRIPTION OF THE INVENTION

Please replace the paragraph beginning on page 22, line 12 with the following amended paragraph:

The present diagnostic unit includes the sensors 1a-1d, which detect engine speed, fuel consumption amount, and hydraulic pump pressures as representatives among these parameters. Specifically, the diagnostic unit includes four sensors 1a-1d ~~engine~~ 1d; an engine speed sensor 1a to detect an engine speed, ~~fuel~~ a fuel consumption amount sensor 1b to detect a fuel consumption amount, and ~~left~~ a left hydraulic pump pressure sensor 1c and ~~right~~ a right hydraulic pump pressure sensor 1d to detect pressures of the left and right hydraulic pumps, respectively. The diagnostic unit, of course, may include sensors to detect working pressures of the bucket cylinder, the stick cylinder, the boom cylinder and others, as mentioned above.

Please replace the paragraph beginning on page 25, line 3 with the following amended paragraph:

As mentioned above, the present diagnostic unit ~~is characterized by creating~~ creates SOMs, corresponding one to each of the operation modes of a hydraulic excavator, serving as individual separation models.